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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,157	08/09/2007	John J. Keating III	101995-010801	8332

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EXAMINER

TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
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2482

NOTIFICATION DATE	DELIVERY MODE
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03/28/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/585,157	Applicant(s) KEATING III, JOHN J.	
	Examiner RICHARD TORRENTE	Art Unit 2482	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-160 is/are pending in the application.
- 4a) Of the above claim(s) 1-45,59-139 and 141-160 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46-58 and 140 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group IV corresponding to claim(s) 46-58 and 140 in the reply filed on 3/2/11 is acknowledged.
2. Claim(s) 1-45, 59-139 and 141-160 is/are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected embodiment, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claim(s) 46-58 and 140 is/are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 46 recites the limitation "the difference" and "the spatial locations" in lines 10 and 13 respectively. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 58 recites the limitation "said compensating step" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 46-48, 50-52 and 54-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Vaillant et al. (US 2002/0123680 A1).

Regarding claim 46, Vaillant discloses a method for calibrating a three-dimensional imaging system having optical apparatus (see fig. 1 and fig. 2) for capturing an optical image of a desired object from at least two positions (e.g. see IA1 and IA2 in fig. 1), comprising the steps of: projecting a virtual calibration pattern (see VV in fig. 1) in the field of view of the optical apparatus; choosing one position (e.g. see IA1 in fig. 1) of the optical apparatus as a reference position; assigning coordinates of a coordinate system (see axis in fig. 2) relative to either the virtual calibration pattern or the reference position; measuring the differences (see ¶ [0039]) in the virtual calibration pattern from a second position (e.g. see IA2 in fig. 1) of the optical apparatus; calculating calibration corrections (see inputs to 33 in fig. 4) relative to the reference position based on the spatial locations and orientations in the reference position and the second position (see ¶ [0042]-[0044]); and adjusting images from the optical apparatus based on the calibration corrections (see 33 in fig. 4).

Regarding claim 47, Vaillant further discloses including the step of assigning the coordinate system at the second position (see ¶ [0039]).

Regarding claim 48, Vaillant further discloses wherein the optical apparatus includes a single optical recorder that moves between a reference and a displaced position (see fig. 1).

Regarding claim 50, Vaillant further discloses wherein said single optical recorder is a two-dimensional camera (see fig. 1).

Regarding claim 51, Vaillant further discloses wherein said single optical recorder includes an electronic imaging detector comprising a pixel array and said step of assigning coordinates is either in parallel to the pixel array or normal to the pixel array (see PPI and IA1 in fig. 2).

Regarding claim 52, Vaillant further discloses wherein the optical apparatus includes at least two optical recorders, one of which is located at a reference position and another of which is located at a displaced position (e.g. see IA1 and IA2 in fig. 1).

Regarding claim 54, Vaillant further discloses wherein said at least two optical recorders are two-dimensional cameras (see fig. 1).

Regarding claim 55, Vaillant further discloses wherein said at least two optical recorders include an electronic imaging detector comprising a pixel array and said step of assigning coordinates is either in parallel to the pixel array or normal to the pixel array (see PPI and IA1 in fig. 2).

Regarding claim 56, Vaillant further discloses wherein said step of assigning coordinates is in alignment with the virtual calibration pattern (see axis in fig. 2).

Regarding claim 57, Vaillant further discloses wherein the coordinates are assigned arbitrarily (see Vi in fig. 1 associated with fig. 2).

Regarding claim 58, Vaillant further discloses wherein said compensating step is performed mechanically or electronically (see 3 in fig. 2).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 49, 53 and 140 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaillant et al. (US 2002/0123680 A1) in view of Kiyoi et al. (US 2002/0036779 A1).

Regarding claims 49 and 53, Vaillant does not disclose wherein said single optical recorder is a three-dimensional camera; wherein said at least two optical recorders are three-dimensional cameras.

However, Kiyoi, in the same field of endeavor, discloses a three-dimensional image wherein said single optical recorder is a three-dimensional camera (see 2 in fig. 1); wherein said at least two optical recorders are three-dimensional cameras (see 2 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Kiyoi teachings of three-dimensional camera into Vaillant camera for the benefit of reducing the production cost and obtain images free from positional differences of pixels.

Regarding claim 140, although Vaillant discloses illuminations (see 2 in fig. 2), it is noted that Vaillant does not disclose wherein the illuminations is at least one laser ranging device illuminates and measures distances to points on the desired object using least one calibration wavelength.

However, Kiyoi, in the same field of endeavor, discloses a three-dimensional image wherein the illuminations is at least one laser ranging device (see 5 in fig. 2A;

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see ¶ [0079]) illuminates and measures distances to points on the desired object using least one calibration wavelength (see projection of 5 in fig. 2A; see abstract).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Kiyoi teachings of laser light into Vaillant light for the benefit of reducing the production cost and obtain images free from positional differences of pixels.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-Th: 7:30 - 6:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard Torrente/
Examiner, Art Unit 2482